Linguistic Correlates of Proficiency (LCP)

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Background

- Interagency Language Roundtable (ILR) scale widely used in U.S.

- **ILR 3** (on a scale of 0–5) is considered the minimum acceptable level for professional proficiency in **less commonly taught languages (LCTLS)** (Brecht & Rivers, 2005)

- e.g., Russian, Chinese, Persian, Arabic, Korean
Motivation

- The majority of LCTL learners do not go beyond ILR 2, even after many years of study (Long, Gor & Jackson, 2012)

- While the ILR scale is attractive to end users and test administrators, these scales are less helpful for learners and instructors

- Few data exist as to the appropriate linguistic competence for the different ILR levels—especially at the advanced levels for LCTLs

- Practical need for diagnostic to add linguistic detail to ILR proficiency scores
Longterm goals of LCP project

Primary:

- To **identify linguistic features** that are implicated in progress on the ILR scale (specifically, from **ILR 2 to 2+**, and from **ILR 2+ to 3**)
- To **establish developmental trajectories** for these features

Secondary:

- Improve learning/teaching
Construct

- The underlying construct is defined as having knowledge in different linguistic domains in terms of both **accuracy** and **automaticity**.

  - **Phonology**
    - +Accuracy
    - +Automaticity
  
  - **Lexis**
    - +Accuracy
    - +Automaticity
  
  - **Morphology**
    - +Accuracy
    - +Automaticity
  
  - **Syntax**
    - +Accuracy
    - +Automaticity
Measures

Set of tests for each language

- **Receptive** Tasks
  - Syntactic accuracy: Grammaticality Judgment Task (GJT)

  *Test taker sees (or hears) a sentence:*

  “The researchers was running some tests.”

  *Test taker decides if it is **acceptable** or not acceptable*

  - Syntactic automaticity: Self-paced Reading task (SPR)
Measures

Example: Self-paced Reading task (SPR)

Test taker sees:

___ ____________ ___ _______ ____ ___.

- Presses button to make next word appear
- Reaction times (RTs) recorded
- Slower RTs at errors indicate sensitivity to grammar
Measures

Set of tests for each language

- **Receptive Tasks**
  - Syntactic accuracy: Grammaticality Judgment Task (GJT)
  - Syntactic automaticity: Self-paced Reading task (SPR)

- Linguistic features selected on the basis of:
  - reviews of previous research
  - interviews with experienced teachers
  - interviews with advanced learners (OPI sample)
  - reviews of textbooks for advanced levels

- **Languages:**
  - Russian, Chinese, Persian

Syntax
+ Accuracy
+ Automaticity
Research Questions

1. Which linguistic features of Russian, Chinese, and Persian correlate with ILR proficiency levels 2, 2+, and 3 on the ILR scale?

2. At what level of control do these linguistic features correlate with ILR proficiency levels 2, 2+, and 3 on the ILR scale?

(cf. Long, Gor & Jackson, 2012)
Procedure

- After initial screening, learners who were expected to score ILR 2 to 3+ were selected.

- Participants took an official Oral Proficiency Interview (OPI).

- Participants completed the LCP battery, delivered via remote DMDX (Forster & Forster, 2003).
Overview of Russian LCP tests

**Phonology**
+Accuracy
+Automaticity

LDT - auditory

AX discrimination - auditory

**Lexis**
+Accuracy
+Automaticity

Translation judgment - auditory

LDT w/ priming: semantic - cross-modal

**Morphology**
+Accuracy
+Automaticity

LDT: inflectional morphology - auditory

LDT: derivational morphology - auditory

LDT w/ priming: stem allomorphy - cross-modal

**Syntax**
+Accuracy
+Automaticity

Grammaticality judgment - visual

Self-Paced Reading (SPR) - visual

**LDT** = Lexical Decision Task
- AX discrimination task (same-different)
- Measured response times to
  - Difficult vs. easy sounds
  - Frequent vs. infrequent sounds

<table>
<thead>
<tr>
<th></th>
<th>High probability</th>
<th>Low probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceptually easy</td>
<td>/ni/</td>
<td>/mi/</td>
</tr>
<tr>
<td>Perceptually difficult</td>
<td>/mi/</td>
<td>/ni/</td>
</tr>
</tbody>
</table>
Russian

300 ms

+ + +

Silent fixation time

Hear 1st ‘word’

300 ms

Hear 2nd ‘word’

5000 ms

AX discrimination - auditory

DIFFERENT

SAME

SAME

DIFFERENT

Russian Silent fixation time Hear 1st ‘word’ Silence Hear 2nd ‘word’ Answer

DIFFERENT SAME
Russian

**AX discrimination - auditory**

<table>
<thead>
<tr>
<th>/mɨ/ vs. /mi/</th>
<th>/ni/ vs. /nɨ/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean RT (ms)</td>
<td></td>
</tr>
<tr>
<td>ILR0</td>
<td>ILR2</td>
</tr>
<tr>
<td>ILR3</td>
<td>NS</td>
</tr>
<tr>
<td>ILR0</td>
<td>ILR2</td>
</tr>
<tr>
<td>ILR3</td>
<td>NS</td>
</tr>
</tbody>
</table>

High/Low Frequency
- **High**
- **Low**

- **/mɨ/ vs. /mi/**
  - ILR0: High/Low Frequency
  - ILR2: High/Low Frequency
  - ILR3: High/Low Frequency
  - NS: High/Low Frequency

- **/ni/ vs. /nɨ/**
  - ILR0: High/Low Frequency
  - ILR2: High/Low Frequency
  - ILR3: High/Low Frequency
  - NS: High/Low Frequency
Overview of Chinese LCP tests

**Phonology**
- Tone identification - auditory
- AX discrimination - auditory

**Lexis**
- LDT - visual
- Vocabulary size - visual
- Vocabulary size - auditory

**Syntax**
- Sentence completion - visual
- Grammaticality judgment - visual
- Grammaticality judgment - auditory

**Overview**
- Accuracy
- Automaticity
Chinese

- 100 multiple choice items
- 10 words each from 1000 item frequency bands starting at the 6000th most frequent word and ending with the 15,999th
- Example:

  Test taker hears:

  kāngkǎi (慷慨)

  Four choices appear onscreen:

  1. generous  2. indignant  3. touched  4. selfish
Chinese

Limitations:

- Exploratory in nature (cf. Shen, 2009; Chao et al., 1967)
- Few L2 participants (n=24 total), especially ≥ ILR 3 (n=2)
- Item analysis needs to be done to improve test items
- Current format requires NS to understand English in order to answer accurately

<table>
<thead>
<tr>
<th>ILR Level</th>
<th>Mean Vocab Size</th>
<th>sd</th>
<th>range</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILR 2</td>
<td>4,960</td>
<td>1,120</td>
<td>3,360-7,360</td>
</tr>
<tr>
<td>ILR 2+</td>
<td>9,279</td>
<td>1,140</td>
<td>7,040-12,080</td>
</tr>
<tr>
<td>NS</td>
<td>13,119</td>
<td>800</td>
<td>11,999-14,719</td>
</tr>
</tbody>
</table>
Overview of Persian LCP tests

**Phonology**
- Accuracy
- Automaticity

**Lexis**
- Accuracy
- Automaticity

**Morphology**
- Accuracy
- Automaticity

**Syntax**
- Accuracy
- Automaticity

**Naturalness task**
- Auditory

**Pronunciation judgment**
- Cross-modal

**Vocabulary size**
- Visual

**Light verbs test**
- Multiple choice
- Visual

**Collocation judgment**
- Auditory

**LDT: negative & agentive**
- Visual

**Grammaticality judgment**
- Visual

**Grammaticality judgment**
- Auditory

**Plurals**
- Visual
Linguistic features and tasks: ten different receptive-based test tasks. For example:

- Phonological knowledge: e.g., Persian Vowels and Liquids through a “Naturalness Task”

- Lexical knowledge: e.g., Persian light verbs through a Multiple Choice (MC) task

- Morphological knowledge: e.g., negatives and Agentives through Lexical Decision Task (LDT)

- Syntactic knowledge: e.g., Accusative “Ra”, subject-verb agreement through audio and visual GJT's.
1. Which linguistic features of Russian, Chinese, and Persian correlate with ILR proficiency levels 2, 2+, and 3 on the ILR scale?

2. At what level of control do these linguistic features correlate with ILR proficiency levels 2, 2+, and 3 on the ILR scale?
Limitations & Future Directions

- Find large numbers of ≥ ILR 3 proficiency LCTL learners
- Improve current batteries
- Replace tests that do not discriminate ILR levels
- Establish lists or relevant linguistic correlates
- Target additional LCTLs--Korean and Arabic
- Systematize selection of relevant features
- Find ways to compare results across languages
- Determine practical usefulness (or lack) of psycholinguistic batteries (e.g., speed training)
Спасибо!
谢谢!
با تشكراً شما!
Thank you!

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LCP relation to functional proficiency

A ‘pre-theoretic’ model of the link between LCP and functional proficiency
REFERENCES


